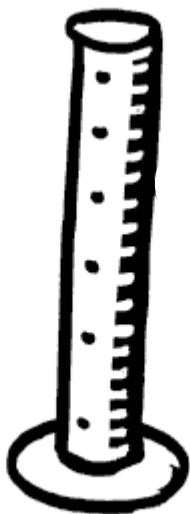


Name \_\_\_\_\_

## Comparing the Densities of Liquids

1. What do you predict will happen when we mix together the vegetable oil, corn syrup, and water? EXPLAIN your prediction.

2. On the graduated cylinder below, draw and LABEL the location of each of the liquids after they were actually mixed together.



3. What is the relationship between the density of a liquid and its position in the graduated cylinder?

Use the following information to answer questions 4 and 5. The density of vegetable oil is  $0.9\text{g/cm}^3$  and the density of corn syrup is  $1.4\text{g/cm}^3$ .

4. The mass of the copper cylinder is  $56.0\text{g}$ , its volume is  $6.29\text{cm}^3$ , and its density is  $8.9\text{g/cm}^3$ . Based on that information, where in the cylinder do you PREDICT the copper cylinder will be when added to the liquids? EXPLAIN your answer.

5. The mass of the nylon spacer is  $6.5\text{g}$ , its volume is  $5.91\text{cm}^3$ , and its density is  $1.1\text{g/cm}^3$ . Based on that information, where in the cylinder do you PREDICT the nylon spacer will be when added to the liquids? EXPLAIN your answer.

6. Where did the copper cylinder fall when added to the liquids?

7. Where did the nylon spacer fall when added to the liquids?

8. If an object with a density of  $3\text{g/cm}^3$  is placed in water, will that object float or sink? EXPLAIN your answer.

9. If that same object (with a density of  $3\text{g/cm}^3$ ) is placed in a liquid with a density of  $5\text{g/cm}^3$ , will that object float or sink? EXPLAIN your answer.

10. If an object sinks in water, does that mean it will sink in all liquids? EXPLAIN your answer.